

REMARKS

Claims 1-18 are all the claims pending in the application.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

Claims 1, 4-6, 8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holloway (U.S. Patent No. 6,521,248).

Claims 2, 3, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holloway in view of JP 2000-000447).

The Applicants traverse the rejections and request reconsideration.

Claim Rejections Under 35 U.S.C. § 112, Second Paragraph

Rejection of Claim 1 based on § 112, Second Paragraph

The Examiner's finding of claim 1 as being indefinite is believed to be incorrect. The requirements of Section 112, second paragraph, are that the metes and bounds of a claim must be clear to a skilled artisan. Breadth of claim is not to be equated with indefiniteness. MPEP 2173.04 *citing In re Miller*, 441 F. 2d 689, 169 USPQ 597 (CCPA 1971).

Claim 1 recites a method of making a gas hydrate. A skilled artisan would know that the scope of this claim covers any gas which are capable of forming a gas hydrate. To that extent, the metes and bounds of the claim is clear as required by Section 112, second paragraph. The Applicants should, therefore, be required to restrict the scope of the claim to any particular gas.

Claim Rejections Under 35 U.S.C. § 103

Rejection of Claims 1, 4-6, 8 and 18 based on Holloway

The present invention, as recited in claim 1, is a method of making gas hydrates. It is well-known that gas hydrates are crystalline substances formed by a combination of water and certain gas molecules. The present invention relates to a method of forming such gas hydrates by a specific process comprising generating ultrafine bubbles in an aqueous solution; and spontaneously generating hydrate nuclei by self-compression and collapsing of the ultrafine bubbles.

Holloway does not disclose making gas hydrates. It merely discloses making micro-cluster liquids. An example of such a micro-cluster of water molecules is shown in Fig. 4. Such a micro-cluster liquid (for example, micro-cluster water), is completely different from a gas hydrate. Specifically, Holloway does not disclose at least the step of spontaneously generating hydrate nuclei by self-compression of the ultrafine bubbles.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP 2142 *citing In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The Applicants respectfully submit that the Examiner has not satisfied the burden of establishing *prima facie* obviousness at least because he has not satisfied at least the “all limitations” prong of the three prong test for obviousness. Specifically, the Examiner has not shown that a skilled artisan would have found it obvious to practice the present invention including the step of spontaneously generating hydrate nuclei by self-compression of the ultrafine bubbles from the teachings of Holloway. Since the “all limitations” prong is not met, the “reasonable expectation of success” prong is also not met.

Claim 18 includes limitations analogous to the ones describe above in relation to claim 1. Therefore, it should be patentable at least for analogous reasons.

Claims 4-6 and 8 are dependent on claim 1 and are allowable at least for the same reasons.

Rejection of Claims 2, 3, 7 and 9 based on Holloway in view of JP 2000-000447

Claims 2, 3, 7 and 9 are dependent on claim 1 and are allowable at least for the same reasons. Moreover, JP 2000-000447 does not overcome the deficiencies noted above in the teachings of Holloway.

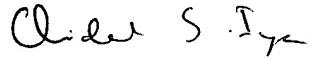
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

RESPONSE UNDER 37 C.F.R. § 1.111
U.S. Patent Application No.: 10/790,716

Attorney Docket No.: Q79574

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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Date: January 22, 2007